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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,979	12/21/2000	Kazuhiko Sugiyama	072982/0212	5495

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EXAMINER

MOORE JR, MICHAEL J

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 04/30/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/740,979

Applicant(s)

SUGIYAMA, KAZUHIKO

Examiner

Michael J. Moore, Jr.

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2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 11/18/2002 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.

Specification

2. The abstract of the disclosure is objected to because of the following informalities: On line 1, the word "utilized" should be "utilizes". There is some confusion regarding the sentence on lines 1-7. It is suggested that this sentence be separated as follows: "ATM edge node switching equipment utilizes an IP-VPN function, which can achieve a low cost VPN compared with an L2-VPN in which a user terminal is connected to the ATM edge node switching equipment by a mesh connection. This connection is provided by connecting the user terminal and the ATM edge node switching equipment with one leased line." Also, on line 26, the word "utilized" should be "utilizing". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (U.S. 6,381,244) in view of Luciani et al. (U.S. 6,614,791).

Regarding claim 1, Nishimura et al. teaches an ATM Exchange EX1 (ATM edge node switching equipment) in Figure 1 that is connected to plural user terminals in an ATM network. Nishimura et al. also teaches an ATM Exchange EX1 (IP data packet distribution function) in Figure 5 that distributes IP data packets to plural user terminals using a VCC table 22c, which contains a destination IP address field. Nishimura et al. also teaches a datagram cell reader 22a in Figure 5 (inputted IP data packet analyzing section) that obtains a packet that contains a cell with an input VCC no. (input virtual channel number), a quality of service (QoS) class field (quality of service type set), a protocol identifier (protocol type), a source terminal address field (source address service port number), a destination address field (destination service port number), and a cell identifier field (code point) that is contained within the header portion of the received packet from a user terminal. See cell element C_0 in Figure 2, which contains fields $F_1 - F_4$. Nishimura et al. also teaches routing controller 22d (routing information retrieving section) in Figure 5 that checks the QoS, and the destination IP address and selects an appropriate output VCC as described in column 14, lines 36-67.

Nishimura et al. fails to teach a virtual private network identifier (VPN-ID) for distinguishing user terminals. Nishimura et al. also fails to teach routing to an appropriate output VC based on the VPN-ID. However, Luciani et al. teaches a system, device, and method for supporting multiple virtual private networks in a communication network by encoding a virtual private network identifier in certain control messages in order to associate those control messages with a particular VPN (a particular user). At the time of the invention, it would have been obvious to someone of ordinary skill in the

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art given these references to combine the teachings of Nishimura et al. with the virtual private network identifier of the Luciani et al. reference. A motivation for doing so would be in order to distinguish the specific user terminal(s) that packets are associated with for routing purposes as described in column 2, lines 33-52 of the Luciani et al. reference.

Regarding claim 2, Nishimura teaches a leased line between each of the plural user terminals and an ATM Exchange (ATM edge node switching equipment) in Figure 18. Nishimura et al. does not explicitly teach that the leased line is a virtual private network of a layer 2 in an OSI model. However, Luciani et al. teaches a multi-protocol system 100 in Figure 1 that contains an ATM Ingress edge device 120 coupled to source end device 110 that contains an Ingress MPOA client (MPC) element 124 that is able to maintain an Ingress MPC for each supported virtual private network (VPN) as described in column 6, 28-35. At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to make the leased line of Nishimura et al. capable of supporting multiple virtual private networks in order to allow for a communication network to be shared by multiple consumers as described in column 6, lines 1-7 of the Luciani et al. reference.

Regarding claim 4, Nishimura et al. teaches an ATM Exchange EX1 (ATM edge node switching equipment) in Figure 1 that is connected to a plurality of user terminals through leased lines. Nishimura et al. also teaches VCC1 and VCC2 (input VCs) to which IP data packets are inputted from user terminals A and B. Nishimura et al. also teaches a datagram cell reader 22a (inputted IP data packet analyzing section) in

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Figure 5 that analyzes leading cell C_0 (contained in header of packet in Figure 2).

Nishimura et al. also teaches a VCC table 22c (user information memory) in Figure 5 that stores VCC numbers (input VC numbers), QoS class (QoS type), a protocol identifier (see field F_4 of Figure 2), a destination address field (destination service port number), a source address field (source address service port number) and a cell identifier (code point, See field F_1 of Figure 2). Nishimura et al. also teaches a routing table 22b, a VCC table 22c, and a switching table 21b (combined routing information memory) in Figure 5 that store a destination IP address, plural output VCCs, the state of VCCs, and QoS class. Nishimura also teaches that a data packet is transferred to a destination address in an ATM network by adding leading cell C_0 to a header of a packet (See Figure 2).

Nishimura et al. fails to teach storing a virtual private network identifier and using this identifier for routing purposes. However, Luciani et al. teaches a system, device, and method for supporting multiple virtual private networks in a communication network by encoding a virtual private network identifier in certain control messages in order to associate those control messages with a particular VPN (a particular user). At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to combine the teachings of Nishimura et al. with the virtual private network identifier of the Luciani et al. reference. A motivation for doing so would be in order to distinguish the specific user terminal(s) that packets are associated with for routing purposes as described in column 2, lines 33-52 of the Luciani et al. reference.

Regarding claim 5, Nishimura et al. further teaches a VCC establishing agent 23, bandwidth table 22, and VCC table 22c (combined VC control unit) in Figure 19 that monitors requested bandwidth in VCC table 22c versus remaining line bandwidth managed in bandwidth table 22e and identifies when bandwidth requested cannot be provided (trouble) for routing purposes. Nishimura et al. also teaches network management center (network control unit) in Figure 18 that manages ATM Exchanges that are connected to it. Nishimura et al. also teaches VCC establishing agent 23 (command analyzing section) that analyzes VCC connection information from the network management center.

5. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (U.S. 6,381,244) in view of Luciani et al. (U.S. 6,614,791) and in further view of Yin et al. (US 2001/0055313).

Regarding claim 3, Nishimura et al. teaches a QoS class field in Figure 5 that contains multiple classes that correspond to categories such as cell loss rate (tagging trouble), delay time (transmission delayed time), delay fluctuation, etc. as described in column 13, lines 1-11. Nishimura et al. fails to teach discarding an illegal cell. However, Yin et al. teaches an ATM segmentation/transmitter 320 in Figure 4 that discards packets based upon VC buffer usage as a method of congestion control (QoS). At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to use the packet discard of Yin et al. as a QoS measure with the teachings of Nishimura et al. in order to regulate buffer usage and reduce congestion as described in page 3, paragraphs 26 and 27 of the Yin et al. reference.

Regarding claim 6, Nishimura et al. teaches a QoS class field (QoS type) in Figure 5. Nishimura et al. also teaches plural output VCCs stored in switching table 21b of Figure 5 that are selected based upon updated information in VCC table 22c and routing table 22b. A particular output VCC is selected and the corresponding destination address in VCC table 22c is used. Nishimura et al. fails to teach a virtual private network identifier provided from an analyzed result. Luciani et al. teaches a system, device, and method for supporting multiple virtual private networks in a communication network by encoding a virtual private network identifier in certain control messages in order to associate those control messages with a particular VPN (a particular user).

Nishimura et al. in view of Luciani et al. fails to teach discarding of data packets by a routing information retrieving section when trouble occurs in a VC. However, Yin et al. teaches an ATM segmentation/transmitter 320 in Figure 4 that discards packets based upon VC buffer usage as a method of congestion control (QoS). At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to combine the teachings of Nishimura et al. in view of Luciani et al. with the packet discard of Yin et al. as a QoS measure in order to regulate buffer usage and reduce congestion as described in page 3, paragraphs 26 and 27 of the Yin et al. reference.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fowler et al. (US 2002/0097675), Nair et al. (U.S. 6,337,863),

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and Pillar et al. (US 2003/0202481) are all references that contain material pertinent to this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (703) 305-8703. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (703) 308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.
Examiner
Art Unit 2666

mjm MM

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4/29/04
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